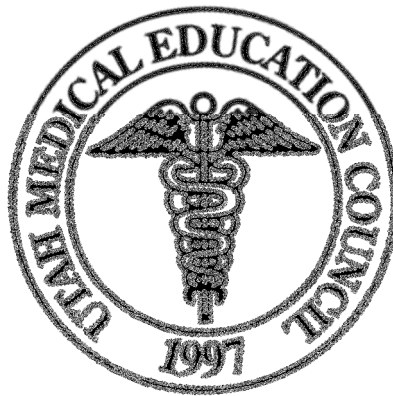


ANALYSIS OF UTAH'S
REGISTERED NURSE
WORKFORCE- 2012



Analysis completed in 2012 by:

Clark Ruttinger

Analysis of Utah's Registered Nurse Workforce

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About Us

The Utah Medical Education Council (UMEC) was created in 1997 by H.B.141 out of a need to secure and stabilize the state's supply of healthcare clinicians. This legislation authorized the UMEC to conduct ongoing healthcare workforce analyses and to assess Utah's training capacity and Graduate Medical Education (GME) financing policies. The UMEC is presided over by an eight member board appointed by the Governor to bridge the gap between public/private health care workforce and education interests.

Our Mission:

To promote healthcare workforce planning, production, and policy through assessment, innovation, and collaboration with stakeholders

Our Vision:

The Utah Medical Education Council holds assessment, collaboration, and innovation as its core values and focuses on the interdependency of the three to promote healthcare workforce planning, production, and policy based upon the community's healthcare workforce needs.

Core Responsibilities – Healthcare Workforce

- Assess – supply and demand
- Advise/develop policy
- Seek and disburse Graduate Medical Education (GME) funds
- Facilitate training in rural locations

For more information please visit us at www.utahmec.org

Methods Summary

Data

This analysis was done by aggregating licensed registered nurse information obtained through the Utah Division of Occupational & Professional Licensing (DOPL) with employment data obtained through the Utah Department of Workforce Services (DWS). The DOPL license data reflects all the licensed RNs in Utah as of January 31st, 2011. The DWS employment data is for the 2011 calendar year.

Information including age, gender, license issue and expiration dates, date of birth, and license address was obtained from DOPL data. Information regarding employer industry, county of practice and wage statistics was obtained from DWS data. The UMEC sorted the North American Industry Classification System (NAICS) codes into 13 different healthcare work categories for purposes of analysis.

Data from University of Utah (U of U) and Intermountain Healthcare (IHC) employment records were used to adjust the across the state distribution of their employees. This was necessary because DWS information indicates that all RNs employed by these institutions are located in Salt Lake City where these organizations are headquartered.

Data from a survey of all RN training programs in the state was provided by the Utah Organization of Nurse Leaders. This information includes the number of applications for RN training received by Utah programs, the number of applicants accepted, the number of graduates from Utah programs, faculty information from each program and passing rates by program for the National Council Examination for Registered Nurses (NCLEX).

Retirement

An assumption is made that RNs above the age of 55 years with expired licenses have let their license expire due to retirement. RNs under 55 years of age are assumed to have allowed their license to expire for reasons other than retirement. Data on reasons other than retirement for RN license expiration is not collected by any organization at this time.

Income

Income for RNs is looked at in two different ways in this report. DWS publishes an Occupational Report for RNs that provides annual inexperienced and experienced median income statistics for RNs statewide and by geographic area. DWS provided the UMEC with data on average RN income by employer. Because the UMEC analysis only looks at average RN income by RN employer, the average wage data in the report is lower than the average income data that DWS provides in their Occupational Report for RNs. The UMEC analysis captures the differences in income across RN healthcare work settings in the state that the Occupational Report does not show.

Executive Summary

There were 24,370 RNs with active licenses issued by the state of Utah as of January 31, 2011. Of these, 81% (19,753) work in healthcare in Utah. Another 12% (3,044) of these are working in non-healthcare jobs in Utah and 6% (1,573) are not working in Utah.

From 1989 to 2004 the State of Utah issued an average of 1,200 RN licenses per year. From 2005 to 2010 the average has increased to 1,883 licenses per year.

The largest percentage of RNs (26%) receive their RN license between the age of 25-29 years of age. In addition, 20% of Utah's RNs working in healthcare are over 55 years of age.

Only 50% of all RN licenses issued 20 years ago are still active today. Through the age of 55, regardless of the age of an RN when a license is issued, an average of 49% of licenses have expired within 10 years of being issued. An average of 11% of RN licenses issued each year are not renewed after the first licensing period. An average of 30% of RN licenses issued each year are not renewed after three licensing periods.

There could be a wide variety of explanations for these occurrences, from RN's possibly leaving the state or moving into an advanced practice role or RN's deciding to focus on raising a family with the intention of later returning to the workforce. There may also be the possibility of a tendency toward professional burnout within 10 years. These trends warrant further investigation, including comparison to the license expiration trends of APRNs, PAs and Physicians.

Since 2005, an average of 1,563 RN licenses have expired in each 2-year license cycle (781 expirations per year). Given the average 1,881 new licenses issued per year, this results in a net growth of 1,100 licenses per year. An average of 31% (242) of expired licenses per year can be attributed to retirement (over age 55).

According to the DWS Occupational Report for RNs an inexperienced RN in Utah earns an average income of \$48,530 per year. An experienced RN earns an average income of \$59,420.

UMEC wage analysis by healthcare work setting shows that the highest paid Utah RNs work in Insurance Activities and Administration/Government Support settings. These settings also have the largest percentage of their workforce above 55 years of age. Additionally, 60% of Utah's RN workforce works in a hospital setting.

There is a high demand for RN training in Utah. In the 2012 academic year there were 3,591 qualified applicants for 2,172 positions in Utah's training programs. About 40% (1,419) of qualified applicants to Utah training programs were not accepted.

RN training programs in Utah graduated a total of 1,669 students in the 2010-11 school year. This is equal to 77% of the number of students accepted. Utah's RN training programs have an average pass rate of 85.4% on the National Council Licensure Examination (NCLEX). This means that approximately 1,425 graduates from Utah's RN training programs passed the exam to receive their RN license. This equates to 65.6% of all Utah RN program enrollees passing a licensure exam after completion of a degree.

An average of 1,883 new RN licenses are issued annually in the state of Utah. If 81% of these licenses are working in healthcare in Utah, then we will have 1,525 new RNs in our workforce each year. Our state training programs graduate about 1,425 NCLEX certified RNs each year. If all of these graduates are getting a Utah license, it is likely that Utah's training programs are within 100 RNs per year of Utah's entire annual supply of RNs.

Tables and Figures

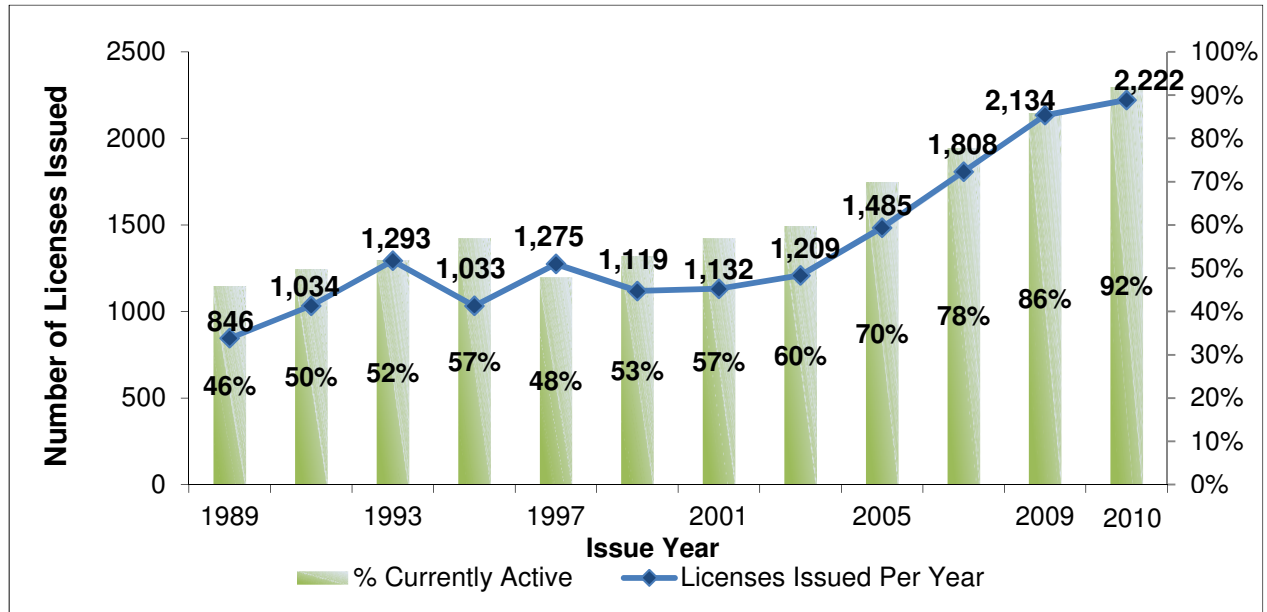
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Table 1: Utah's RN Workforce

Active Utah RN Licenses Working In Health Care in Utah	19,753	81%
Active Utah RN Licenses Working Non-Healthcare Jobs	3,044	12.5%
Active Utah RN Licenses Not Working in Utah	1,573	6.5%
Total Active Utah RN Licenses	24,370	100%

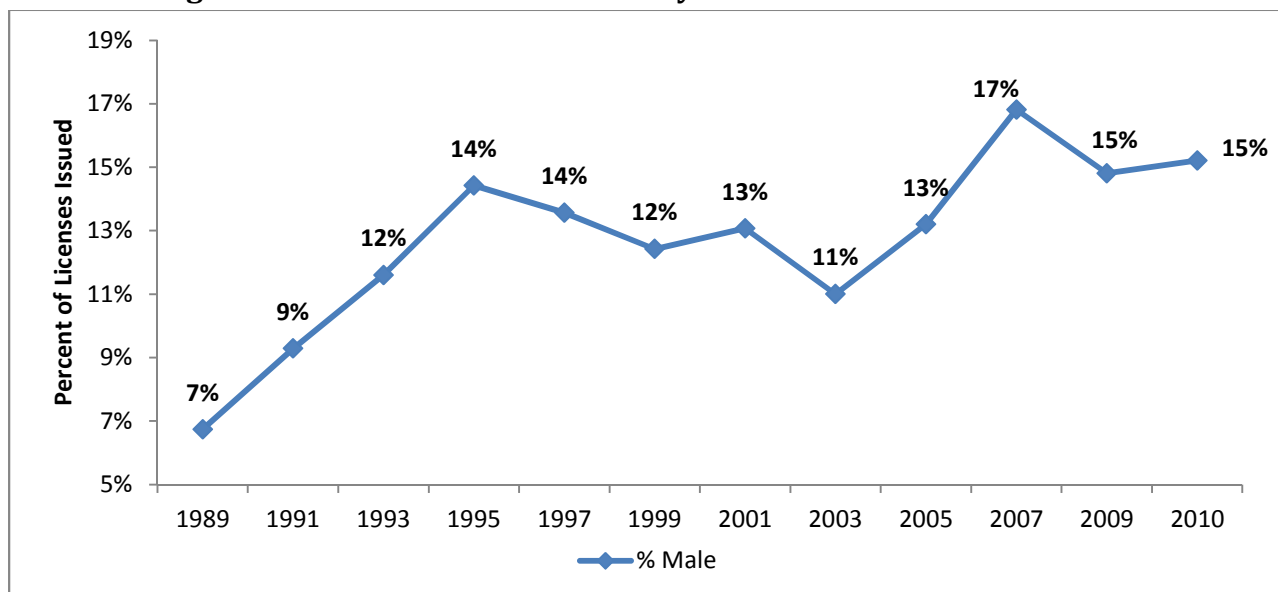
81% of RNs with an active Utah license are working in a healthcare position in the state.

Figure 1: Utah RN Licenses Issue in Utah 1989 to 2010



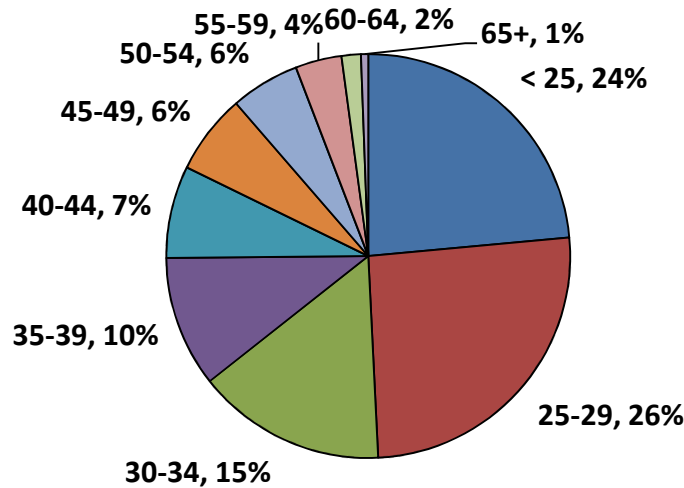
From 1989 to 2004 the State of Utah issued an average of 1,200 RN licenses per year. From 2005 to 2010 the average has increased to 1,883 licenses per year, indicating a growth pattern in the workforce. Looking back to 1989-1991 though there also seems to be a trend of rapid license expiration with only 50% of all licenses issued 20 years ago still active today.

Figure 2: Utah RN Licenses Issued by Year- % Male 1989 to 2010.



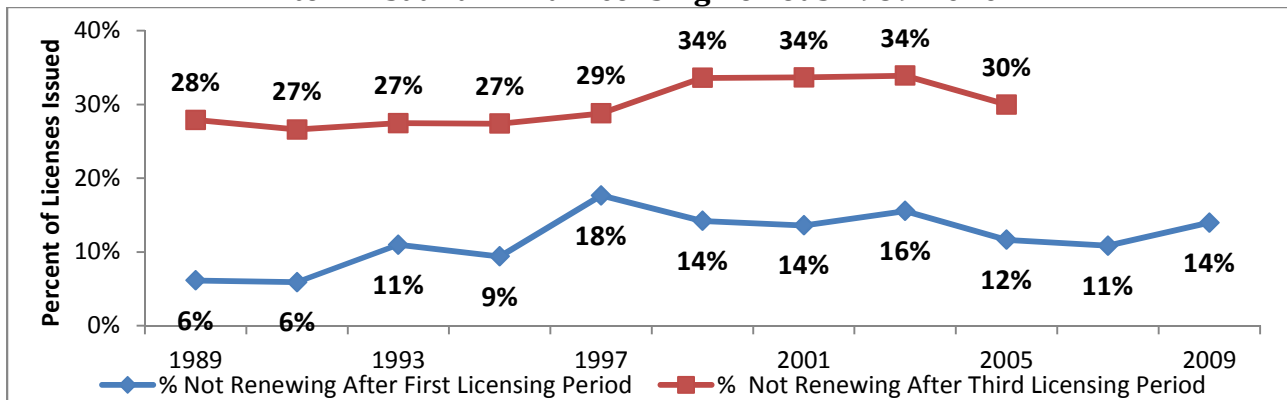
An average of 13% of Utah RN licenses are issued to males.

Figure 3: Average Distribution of Age Cohorts at Issue Year for Utah RN Licenses Issued 2005 to 2010



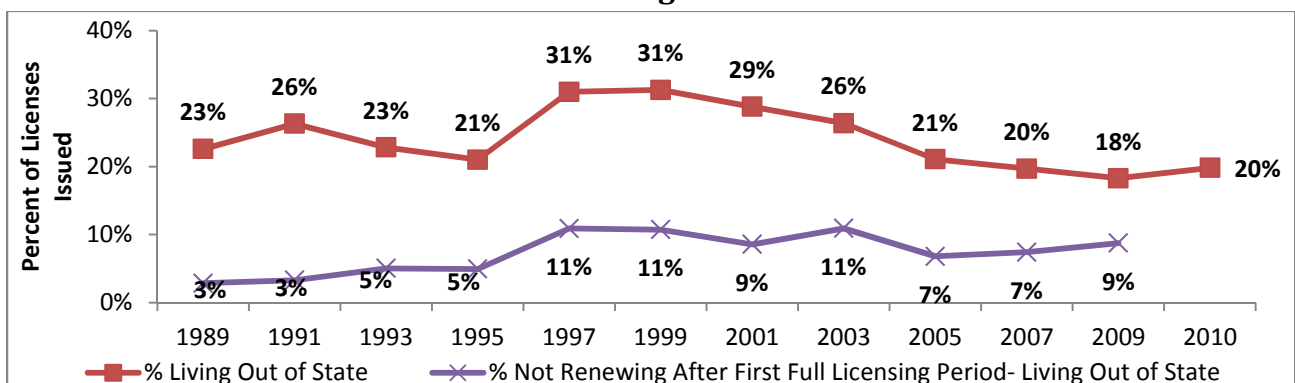
From 2005 through 2010, 50% of RNs received their license before age 29.

Figure 4: Percent of Utah RN Licenses Issued But Not Renewed After First and Third Licensing Periods 1989-2010



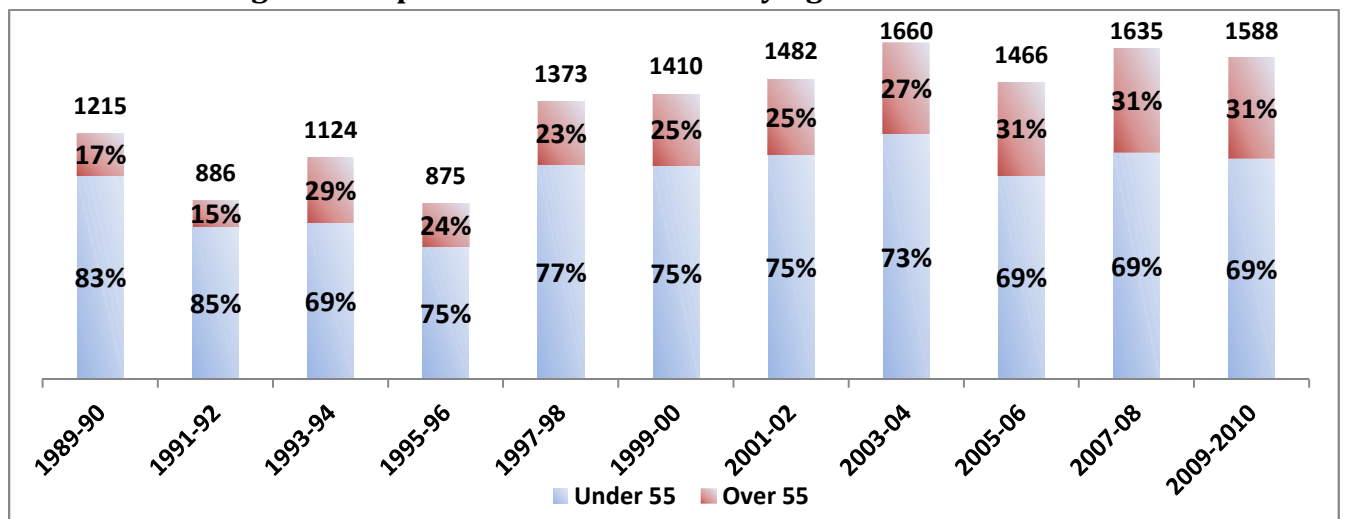
An average of 11% of RN licenses issued are not renewed after the first licensing period. About 30% of RN licenses are not being renewed after three licensing periods.

Figure 5: Utah RN Licenses Issued by Year: % Living out of State, % Not Renewing After First License Period Living out of State 1989 to 2010.



An average of 23% of Utah RN licenses are issued to individuals with an out of state address. An average of 7% of licenses issued each year are to individuals with out of state addresses who do not end up renewing after the first licensing period.

Figure 6: Expired Utah RN Licenses by Age 1989 to 2010



Since 2005, an average of 1,563 RN licenses have expired in each 2-year license cycle (781 expirations per year). Given the average 1,881 new licenses issued per year, this results in a net growth of 1,100 licenses per year. An average of 31% (242) of expired licenses per year can be attributed to retirement (over age 55).

Table 2: Utah RNs by Age at Issue Year and Age at Expiration

Age Cohort at Issue Year	Age at Expiration										Total
	< 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+	
< 25	4%	27%	18%	12%	9%	7%	7%	7%	6%	4%	12,442
25-29		14%	36%	17%	11%	7%	6%	5%	3%	2%	9,563
30-34			16%	33%	15%	9%	10%	7%	5%	3%	6,016
35-39				14%	31%	14%	12%	13%	9%	7%	4,550
40-44					14%	31%	16%	13%	15%	11%	3,406
45-49						17%	35%	18%	13%	17%	2,465
50-54							18%	43%	19%	19%	1,534
55-59								24%	46%	29%	848
60-64									32%	68%	368
65+										100%	7,588
Total	522	4,673	6,587	5,737	4,929	4,275	4,354	4,281	3,729	9,693	

Through the age of 55, regardless of the age at which a license is issued, an average of 49% of licenses have expired within 10 years of being issued. There could be a wide variety of explanations for this trend, from RN's possibly leaving the state or moving in to an advanced practice role. RN's could be deciding to focus on raising a family with the intention of later returning to the workforce. There may also be the possibility of professional burnout within 10 years.

**Table 3: Utah RNs Working in Healthcare with Utah Wages Reported
by Age and County of Employment¹**

County of Employment	< 55 Years of Age	> 55 Years of Age	Missing±	Total	% Urban Share of District
Bear River Multi County District (Box Elder, Cache, Rich)	273	90	371	734	
*Cache	174	58	342	574	78%
Weber River Multi-County District (Davis, Morgan, Weber)	1,244	440	1,014	2,698	
*Davis	720	227	22	969	36%
*Weber	524	212	992	1,728	64%
Uintah Basin Multi-County District (Daggett, Duchesne, Uintah)	221	57	< 5	280	No Urban Counties
Southwestern Utah Multi-County District (Beaver, Garfield, Iron, Kane, Washington)	201	92	830	1,123	
*Washington	146	64	656	866	77%
Southeastern Utah Multi-County District (Carbon, Emery, Grand, San Juan)	170	78	< 5	249	No Urban Counties
Central Utah Multi-County District (Juab, Millard, Piute, Sanpete, Sevier, Wayne)	120	33	105	258	No Urban Counties
Great Salt Lake Multi-County District (Salt Lake, Tooele)	8,493	2,580	38	11,111	
*Salt Lake	8,384	2,562	37	10,983	99%
Provo River Multi-County District (Summit, Utah, Wasatch)	1,035	296	1,673	3,004	
*Utah	1,008	281	1,527	2,816	94%
Out of State†	195	99	< 5	296	N/A
Total	11,952	3,765	4,036	19,753	17,936
Percent	61%	19%	20%	100%	91%

* Census Designated Urban Counties

† Out of State- Employer address out of state with wages reported in Utah

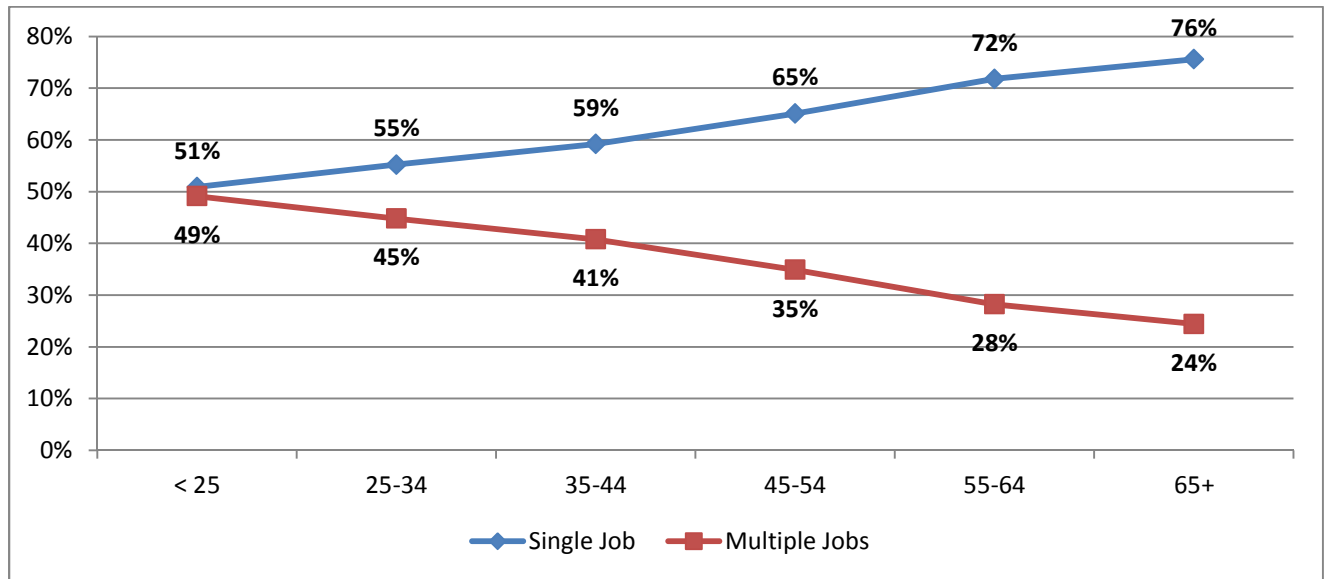
± Missing consists of DOPL license data where there was no date of birth available. In addition it includes RNs who work in the specified county as verified by IHC and the U of U.

91% of RNs working in Utah in healthcare work in an Urban County

20% of RNs working in healthcare are over age 55.

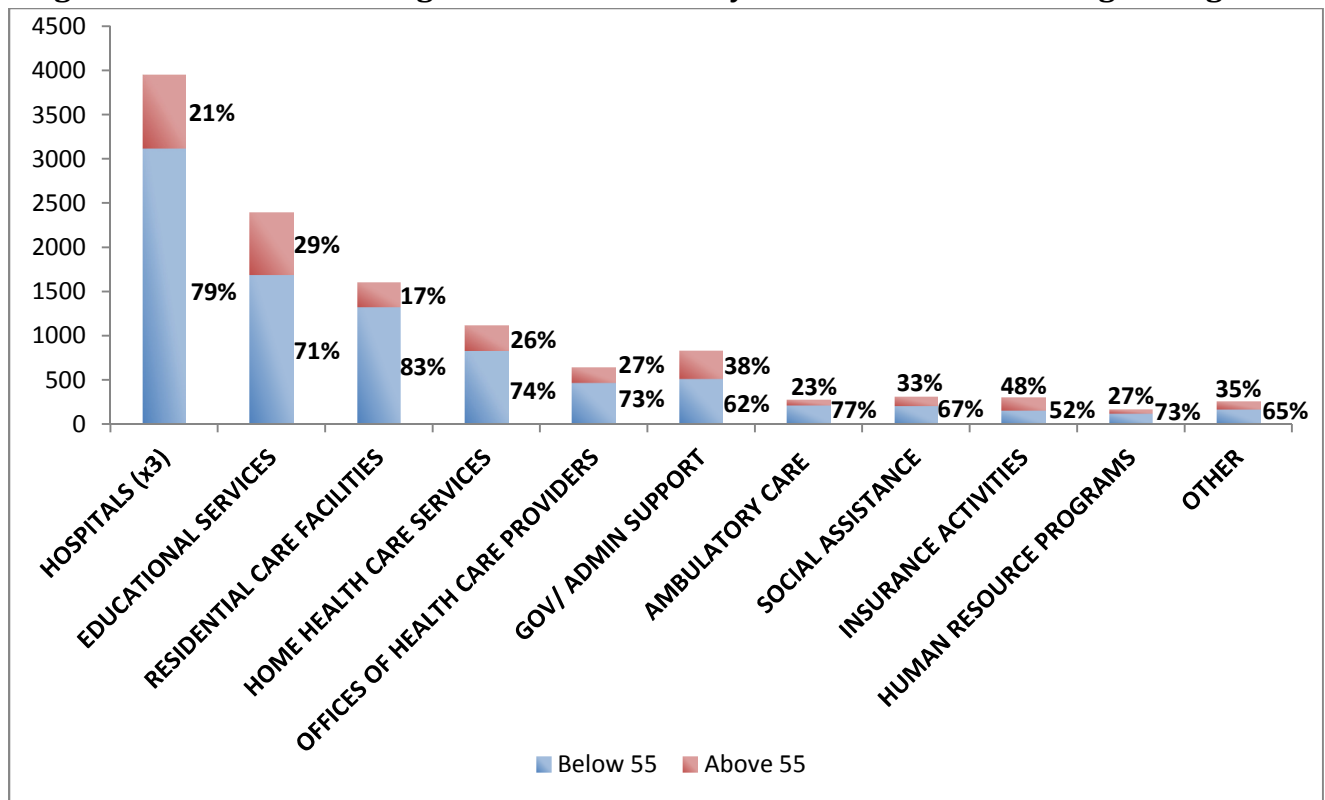
¹ Adjusted for IHC and University of Utah Employees

Figure 7: Age Distribution of Utah RNs Working in Healthcare- Single vs. Multiple Jobs



The age of an RN is inversely correlated to whether or not they are working more than one job in a health care work setting. The older an RN gets, the less common it is to have multiple healthcare jobs.

Figure 8: Utah RNs Working in Health Services by Healthcare Work Setting and Age



60% of Utah's RN workforce works in a hospital. About 21% (2,496) of RNs working in hospitals are above the age of 55. Notably, a larger percentage of RNs over 55 years old work in Insurance Activities and Government/Administration Support than in other healthcare work categories.

Table 4: Utah RNs Working in Healthcare in Utah by County and Work Setting

County of Employment	ADMIN/ GOVT SUPPORT	AMBULATORY SERVICES	EDUCATIONAL SERVICES	HOSPITALS	HUMAN RESOURCE PROGRAMS	INSURANCE ACTIVITIES	RESIDENTIAL CARE FACILITIES	SOCIAL ASSISTANCE	TECHNICAL SERVICES	OFFICES OF HEALTH CARE PROVIDERS	HOME HEALTH CARE SERVICES	OTHER	Total
Bear River Multi County District(Box Elder, Cache, Rich)	22	56	36	76	0	< 5	42	0	7	33	59	< 5	337
*Cache	21	56	33	0	0	< 5	29	0	7	30	52	< 5	232
Weber River Multi-County District (Davis, Morgan, Weber)	41	40	81	818	< 5	< 5	490	28	9	92	67	18	1,688
*Davis	29	23	47	503	< 5	< 5	291	7	8	24	7	7	949
*Weber	12	17	33	315	< 5	0	199	21	< 5	68	60	11	738
Uintah Basin Multi-County District (Daggett, Duchesne, Uintah)	5	0	6	190	< 5	0	18	< 5	0	< 5	54	< 5	280
Southwestern Utah Multi-County District (Beaver, Garfield, Iron, Kane, Washington)	38	7	39	28	0	0	100	< 5	< 5	45	48	13	321
*Washington	33	0	12	0	0	0	77	< 5	< 5	36	45	5	211
Southeastern Utah Multi-County District (Carbon, Emery, Grand, San Juan)	20	0	< 5	167	0	0	29	0	0	20	10	< 5	249
Central Utah Multi-County District (Juab, Millard, Piute, Sanpete, Sevier, Wayne)	17	5	9	91	0	0	22	0	0	< 5	5	< 5	153
Great Salt Lake Multi-County District (Salt Lake, Tooele)	578	93	2,095	10,048	71	232	614	224	36	282	718	107	15,098
*Salt Lake	566	93	2,088	9,955	71	232	605	224	36	279	714	107	14,970
Provo River Multi-County District (Summit, Utah, Wasatch)	98	63	135	463	51	< 5	286	27	< 5	94	107	5	1,332
*Utah	86	63	123	462	50	< 5	280	27	< 5	86	107	< 5	1,290
Out of State*	10	6	< 5	0	32	58	0	24	14	68	49	32	296
Total	829	270	2,406	11,881	158	294	1,601	307	69	639	1,117	183	19,753
Percent of Workforce	4%	1%	12%	60%	1%	1%	8%	2%	0%	3%	6%	1%	100%

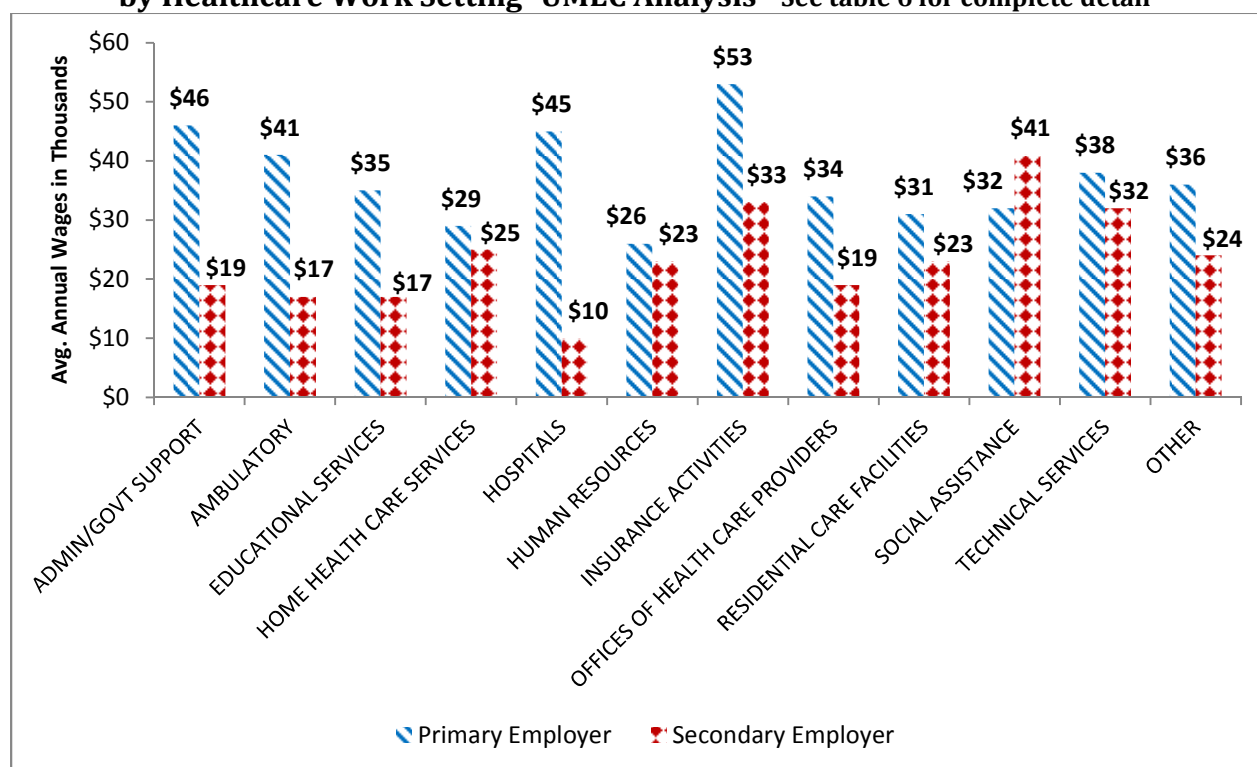
* Census Designated Urban Counties

* Out of State- Employer address out of state with wages reported in Utah or Utah License with address out of state

Table 5: Utah RN Income- DWS Occupational Report for RNs²

Area Name	Annual Inexperienced Median	Annual Median
Bear River	\$43,552	\$54,516
Central Utah	\$44,490	\$56,660
Eastern Utah	\$44,940	\$56,610
Ogden-Clearfield Metro	\$49,080	\$59,290
Provo-Orem Metro	\$47,690	\$58,610
Salt Lake Metro	\$49,710	\$60,830
Southwest Utah	\$47,540	\$58,670
St. George Metro	\$44,960	\$57,240
Utah Statewide	\$48,530	\$59,420

Figure 9: Utah RNs Average Annual Gross Compensation by Healthcare Work Setting- UMEC Analysis³ See table 6 for complete detail



² Income for RNs is looked at in two different ways in this report. DWS publishes an Occupational Report for RNs that provides annual inexperienced and experienced median income statistics for RNs statewide and by geographic area. DWS provided the UMEC with data on average RN income by employer. Because UMEC analysis only looks at average RN income by RN employer the income by employer data that is included in the report is lower than the average income data that DWS provides in their Occupational Report for RNs. The UMEC analysis does however show differences across RN healthcare work categories in the state that the Occupational Report does not show. DWS Occupational Report for Registered Nurses in Utah published online :

http://jobs.utah.gov/jsp/wi/utalmis/reempfullrept.do?soccode=291141&oitle=Registered%20Nurses*

³ While DWS does publish Utah RN income data averages by geographical area, income data across healthcare work categories is not published. The UMEC has analyzed the average (mean) RN wage by employer in order to show differences across RN healthcare work categories in the state.

Table 6: Utah RNs Annual Gross Compensation, By Healthcare Work Setting- UMEC Analysis

RN Work Setting	Primary Employer			Secondary Employer		
	Mean*	Median†	Std. Dev.**	Mean*	Median†	Std. Dev.**
ADMIN/GOVT SUPPORT	\$ 45,681	\$ 50,163	\$ 7,926	\$ 18,941	\$ 10,587	\$ 10,481
AMBULATORY	\$ 41,374	\$ 40,406	\$ 34,765	\$ 17,135	\$ 9,775	\$ 10,384
EDUCATIONAL SERVICES	\$ 35,334	\$ 34,105	\$ 7,113	\$ 16,504	\$ 12,265	\$ 15,053
HOME HEALTH CARE SERVICES	\$ 29,289	\$ 24,902	\$ 11,081	\$ 25,381	\$ 24,582	\$ 17,378
HOSPITALS	\$ 44,633	\$ 43,947	\$ 4,592	\$ 10,224	\$ 5,105	\$ 7,579
HUMAN RESOURCES	\$ 25,500	\$ 17,802	\$ 6,681	\$ 22,765	\$ 17,790	\$ 9,293
INSURANCE ACTIVITIES	\$ 53,241	\$ 57,704	\$ 9,240	\$ 32,688	\$ 31,790	\$ 14,404
OFFICES OF HEALTH CARE PROVIDERS	\$ 33,581	\$ 29,875	\$ 18,399	\$ 19,087	\$ 17,255	\$ 9,889
RESIDENTIAL CARE FACILITIES	\$ 31,195	\$ 28,083	\$ 10,793	\$ 23,490	\$ 16,209	\$ 6,522
SOCIAL ASSISTANCE	\$ 32,137	\$ 31,980	\$ 20,554	\$ 41,058	\$ 39,446	\$ 8,330
TECHNICAL SERVICES	\$ 38,047	\$ 31,716	\$ 29,891	\$ 31,842	\$ 31,893	\$ 17,039
OTHER	\$ 36,356	\$ 29,664	\$ 25,610	\$ 23,987	\$ 19,187	\$ 10,900

* Mean average of mean RN wages by employer

† Mean average of median RN wages by employer

**Standard deviation of means

In addition to having a larger percentage of RNs within each workforce above the age of 55, RNs working in Insurance Activities and Admin/Government Support also have the highest gross compensation of RNs in any work setting.

Table 7: Utah Organization of Nurse Leaders Survey Results

Total Applications Received	4,019
Number of Qualified Applications	3,591
Number of Students Accepted to a Program	2,172
Number of Students Graduated	1,669

The Utah Organization of Nurse Leaders (UONL) gathers data on the states RN training programs. For the 2010 -11 school year, RN training programs in the state received 4,019 applications for admission. Of these, 89% (3,591) of applications were from qualified applicants. Out of these qualified applicants 60% (2,172) were admitted into an RN training program in Utah. Having 1,419 qualified applicants (40% of all qualified applicants) not able to get into a program shows a high demand and competition for training in the RN profession.

RN training programs in Utah graduated a total of 1,669 students in the 2010-11 school year. This is equal to 77% of the number of students accepted. Utah's RN training programs have an average pass rate of 85.4% on the National Council Licensure Examination (NCLEX). This means that approximately 1,425 graduates from Utah's RN training programs passed the exam to receive their RN license. This equates to 65.6% of all Utah RN program enrollees passing a licensure exam after completion of a degree.

To summarize, an average of 1,883 new RN licenses are issued annually in the state of Utah. If 81% of these RNs are working in healthcare in Utah, then we will have 1,525 new RNs in our workforce each year. Our state training programs graduate about 1,425 NCLEX certified RNs each year. If all of these graduates are getting a Utah license, it is likely that Utah's training programs are within 100 RNs per year of Utah's entire annual supply of RNs.

Figure 10: Utah's RN Workforce Supply and Employment Demand

